On-line Continuing Medical Education Employing A Graphical User Interface Bulletin Board System: The Children's Hospital DATALINE

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On-line information access systems have long been in existence for the seasoned computer user, and indeed now are becoming rather common place in the arena of the home user. However, until recently information systems dedicated solely for the use of medical professionals lacked an interface that makes user interaction intuitive. Coupled with the complexities of setting up the appropriate communications hardware, accessing information systems can be somewhat bewildering for the practicing physician who has only a passing knowledge of computers.

Using a computer based bulletin board system (BBS) written by Seth Hamilton of Hamilton Telegraphics, we have established a communications and education system that makes user interaction intuitive and completely mouse driven. The BBS package allows full 256 color Super VGA graphics to be transmitted over standard phone lines at speeds rivaling standard color ANSI graphics. In addition, images compressed with the JPEG standard can be transmitted to the end user and displayed on the user's terminal screen with no interaction by the user (i.e. the user need not download the file, de-archive the image, and then display the image on the terminal screen). Image dithering is performed automatically to accommodate for each user system's graphics capabilities.

Electronic mail can be transmitted with full file attachments. Again, the system assumes the novice user and displays dialog windows requesting user input as the message entry process progresses. Mail can be downloaded to a text file or directly to the user's printer with no user interaction save for pushing a button on the terminal screen.

Using these two modalities, image display and message processing, a continuing medical education program has been established. A case summary is displayed in a scrolling text window with prompts for the user to examine images pertaining to the case at hand. Images can consist of radiographs, micrographs, or photographs. During the case presentation as well, questions are asked of the user. Answers to these questions are entered in a message window that is addressed only to the system operator. Open discussion of each case is available to the user through a message base designated as public.

Under the auspices of the American College of Continuing Medical Education, user's are required to submit specific information to fulfill registration requirements for each CME course. This information is obtained on-line from the user via "templates" which are dialog windows completely configurable by the system operator using a simple scripting language. Information from this registration "template" is combined with the user's personal information database and stored as a text file. At the end of each case cycle, this text file is forwarded via electronic mail to the Continuing Medical Education office at the University of Missouri-Columbia where certificates of completion are prepared.

Standard ANSI graphics are available for non-DOS users. At this time a terminal software package for DOS is available at no charge that will allow full use of color SVGA graphics. Client software for the Windows and Macintosh platforms is in progress. ANSI users can download each case in a self-extracting archive and view the case and images off-line. Case browsing software for the Windows platform is under development.

Using a toll free access line we have developed a sophisticated, yet simple system to allow physicians of all subspecialties and other medical professionals to hone their clinical skills without decreasing their in office practice time and without investing in expensive hardware.

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